PATENT

Docket No. 2301-4015

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): R. BEACH

Serial No.: Unassigned Group Art Unit: Unassigned

Filed: November 7, 2001 Examiner: Unassigned

For: **AN IMPROVED POWER SAVING FUNCTION FOR WIRELESS LANS: METHODS, SYSTEM AND PROGRAM PRODUCTS**

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to the examination on the merits, please amend the above-designated application as follows:

IN THE SPECIFICATION:

Page 2, second paragraph (lines 15-23), REPLACE as follows:

(A) USP 5,465,392, issued November 7,1995 discloses a wireless local area network system including a server and a plurality of mobile wireless stations, the server maintains a table of stations active in the network system and monitors the transmission activity of the stations. If no activity is detected from a station for a predetermined time, a series of watchdog messages is sent requesting a response from that station. The stations are battery powered and operate in an "AWAKE" state to receive or transmit messages or in a SLEEP state of low power consumption. The stations return from the SLEEP state to the AWAKE state in time to receive at least one watchdog message, thereby avoiding the stations being undesirably logged out from the table of active stations.

Page 6, first paragraph (lines 3-21), REPLACE as follows:

The IEEE 802.11 defines the standards for wireless local area networks, the details of which are described in the text IEEE 802.11 Handbook – A Designer's Companion by V. O'Hara and A. Petrick, published by the Institute of Electrical and Electronic Engineers, NY, NY 1999 (ISBN0-7381-1855-9), Chapter 8 which is fully incorporated herein by reference, and the text Wireless LANS: Implementing Interoperable Networks, by J. Gier, published by MacMillian Technical Publishing (ISBN 1-57870-081-7) 1999, Chapter 4 fully incorporated herein by reference. The 802.11 power management function sets access points and radios to power save modes using installed initialization routines. The access points maintain a record of mobile units currently working in power save mode by monitoring a frame control field in a MAC header sent on the network. The access points buffer packets addressed to the mobile unit and forward the buffered packets to the applicable mobile unit when it returns to an active state or when a mobile unit requests the packets. The access points know when a mobile unit is awake because the unit will indicate an active state by toggling a power management byte in a frame control field of a MAC frame. A mobile unit can discover that frames have been buffered at the access point by listening to beacons sent periodically by the access points. The beacons will have a Traffic Indication Map (TIM) of stations having buffered frames at the access points. A station uses a Power Save-Pole (PSP) frame to notify the access point to send the buffered packet. Further details of the operations of wireless LANs are described in the text Wireless LANS: Implementing Interoperable Networks", supra.

REMARKS

This Preliminary Amendment is being filed to correct minor typographical errors that appear in the specification on page 2 and 6 of the instant application.

CONCLUSION

Having corrected minor typographical errors that appears in the specification, Applicant respectfully requests an early examination and allowance of all claims.

Pursuant to 37 C.F.R. § 1.121, Attachment A, showing a mark-up version of the changes made to the specification and claims by the current Amendment is attached hereto.

AUTHORIZATION:

The Commissioner is hereby authorized to charge any additional fees which may be required for the timely consideration of this amendment under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account No. 13-4503, Order No.2301-4015.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: November 7, 2001

By: _____
Joseph C. Redmond, Jr.
Registration No. 18,753

202-857-7887 – Telephone
202-857-7929 – Facsimile

CORRESPONDENCE ADDRESS:
Morgan & Finnegan L.L.P.
345 Park Avenue
New York, New York 10154

PATENT
Docket No. 2301-4015

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): R. BEACH

Serial No.: Unassigned Group Art Unit: Unassigned

Filed: November 7, 2001 Examiner: Unassigned

For: **AN IMPROVED POWER SAVING FUNCTION FOR WIRELESS LANS: METHODS, SYSTEM AND PROGRAM PRODUCTS**

ATTACHMENT A – SHOWING MARKUP OF CHANGES

Commissioner for Patents
Washington, D.C. 20231

Sir:

IN THE SPECIFICATION:

Page 2, second paragraph (lines 15-23), has been AMENDED as follows:

(A) **[USP 5,465,321]** **USP 5,465,392**, issued November 7,1995 discloses a wireless local area network system including a server and a plurality of mobile wireless stations, the server maintains a table of stations active in the network system and monitors the transmission activity of the stations. If no activity is detected from a station for a predetermined time, a series of watchdog messages is sent requesting a response from that station. The stations are battery powered and operate in an "AWAKE" state to receive or transmit messages or in a SLEEP state of low power consumption. The stations return from the SLEEP state to the AWAKE state in time to receive at least one watchdog message, thereby avoiding the stations being undesirably logged out from the table of active stations.

Page 6, first paragraph (lines 3-21), has been AMENDED as follows:

The IEEE 802.11 defines the standards for wireless local area networks, the details of which are described in the text IEEE 802.11 Handbook – A Designer's Companion by V. O'Hara and A. Petrick, published by the Institute of Electrical and Electronic Engineers, NY, NY 1999 (ISBN0-7381-1855-9), Chapter 8 which is fully incorporated herein by reference, and the text Wireless LANS: Implementing Interoperable Networks, by J. Gier, published by MacMillian Technical Publishing **[(IBN98-85498)] (ISBN 1-57870-081-7)** 1999, Chapter 4 fully incorporated herein by reference. The 802.11 power management function sets access points and radios to power save modes using installed initialization routines. The access points maintain a record of mobile units currently working in power save mode by monitoring a frame control field in a MAC header sent on the network. The access points buffer packets addressed to the mobile unit and forward the buffered packets to the applicable mobile unit when it returns to an active state or when a mobile unit requests the packets. The access points know when a mobile unit is awake because the unit will indicate an active state by toggling a power management byte in a frame control field of a MAC frame. A mobile unit can discover that frames have been buffered at the access point by listening to beacons sent periodically by the access points. The beacons will have a Traffic Indication Map (TIM) of stations having buffered frames at the access points. A station uses a Power Save-Pole (PSP) frame to notify the access point to send the buffered packet. Further details of the operations of wireless LANs are described in the text Wireless LANS: Implementing Interoperable Networks", supra.